

IN THE CLAIMS

1-114. (Cancelled)

115. (Currently Amended) A method for preferential destruction of tumor cells in a subject, the method comprising the steps of:

(a) administering rose bengal to the subject such that the rose bengal accumulates in lysosomes of cells of the subject; and then

(b) irradiating a specific location of the subject comprising a tumor with an x-ray tube that emits monochromatic line emission x-rays having an energy above and near the K-absorption edge or the L-absorption edge of iodine that is present in the rose bengal so as to cause emission of Auger electrons from the rose bengal accumulated in the lysosomes of irradiated cells in a dose effective to cause disruption of the lysosomes and death of said irradiated cells in the specific location, said dose being at least 10^6 Gy within a distance of up to 10 Angstroms ~~few-atomic distances~~ from the iodine in the rose bengal, said irradiating being confined to the specific location comprising the tumor so as to localize damage caused by the irradiating and to minimize damage to normal cells of the subject.

116-121. (Cancelled)

122. (Previously Presented) The method according to claim 115, wherein the subject is a human.

123. (Cancelled)

124. (Previously Presented) The method according to claim 123, wherein the x-ray tube has a target that is lanthanum.

125. (Previously Presented) The method according to claim 123, wherein the irradiating in step (b) is performed at least 12 hours after the administering of rose bengal in step (a).

126. (Previously Presented) The method according to claim 123, wherein the irradiating in step (b) is performed from 12-24 hours after the administering of rose bengal in step (a).

127. (Previously Presented) The method according to claim 123, wherein the rose bengal is administered to the subject orally.

128. (Previously Presented) The method according to claim 123, wherein the rose bengal is administered to the subject intravenously.

129. (Previously Presented) The method according to claim 123, wherein the rose bengal is administered to the subject enterically.

130 to 135. (Cancelled)

136. (Previously Presented) The method according to claim 115, wherein the specific location predominantly contains tumor cells.

137. (Previously Presented) The method according to claim 115, wherein the rose bengal is administered directly to a specific organ or tissue of the subject containing tumor cells.

138. (Previously Presented) The method according to claim 115, wherein the tumor comprises tumorous tissue and the irradiating is performed with the rose bengal present in the tumorous tissue in a greater concentration than in normal tissue of the subject.

139. (Previously Presented) The method according to claim 138, wherein the irradiating is performed at least 12 hours after the administering of the rose bengal.

140. (Previously Presented) The method according to claim 139, wherein the irradiating is performed from 12-24 hours after the administering of the rose bengal.

141. (Currently Amended) In a method for treating tumors with x-ray radiation comprising the steps of (i) delivering into a tumor a compound that enhances an effect of x-rays upon irradiation of the tumor and then (ii) irradiating the tumor containing the compound with the x-rays, the improvement wherein the compound delivered to the tumor is rose bengal, which accumulates in lysosomes of cells, and wherein the irradiating is performed with an x-ray tube that emits monochromatic line emission x-rays having an

energy above and near the K-absorption edge or the L-absorption edge of iodine that is present in the rose bengal so as to cause emission of Auger electrons from the rose bengal accumulated in the lysosomes of irradiated cells in a dose effective to cause disruption of the lysosomes and death of the irradiated cells, said dose being at least 10^6 Gy within a distance of up to 10 Angstroms ~~few atomic distances~~ from the iodine in the rose bengal, said irradiating being directed to a specific tumor location comprising tumor cells so as to localize damage caused by the irradiating and to minimize damage to healthy cells.

142. (Previously Presented) The method according to claim 141, wherein the specific tumor location predominantly contains the tumor cells.

143. (Previously Presented) The method according to claim 141, wherein the rose bengal is administered to a tissue or organ removed from the body of a subject.

144. (Previously Presented) The method according to claim 141, wherein the rose bengal is administered directly to a specific organ or tissue of a subject containing the tumor cells.

145. (Previously Presented) The method according to claim 141, wherein the specific tumor location comprises tumorous tissue of a subject and the irradiating is performed with the rose bengal being present in the tumorous tissue in a greater concentration than in normal tissue of the subject.

146. (Previously Presented) The method according to claim 145, wherein the irradiating is performed at least 12 hours after the administering of the rose bengal.

147. (Previously Presented). The method according to claim 145, wherein the irradiating is performed from 12-24 hours after the administering of the rose bengal.